

LVI.—*On some Fish-remains, of the Genera Portheus and Cladocyclus, from the Rolling Downs Formation (Lower Cretaceous) of Queensland.* By A. SMITH WOODWARD, F.L.S.

[Plate X.]

THROUGH the kindness of Mr. R. L. Jack, Government Geologist of Queensland, and Mr. George Sweet, of Brunswick, Melbourne, the writer has been favoured with the opportunity of examining some further remains of fishes from the Lower Cretaceous of Queensland. With the exception of a few Selachian teeth and vertebræ* and a fine species of *Belonostomus* † no cretaceous ichthyolites of importance have hitherto been described from this colony; and the discovery of the two additional species now to be placed on record is thus one of considerable interest. The genera represented have been found in the Cretaceous both of Europe and America, and the second, like *Belonostomus*, also occurs in Brazil. The species, however, appear to be distinct from any already described, and sufficiently characteristic portions of the first are preserved to admit of a precise diagnosis.

Portheus australis, sp. n. (Pl. X. figs. 1, 1 a.)

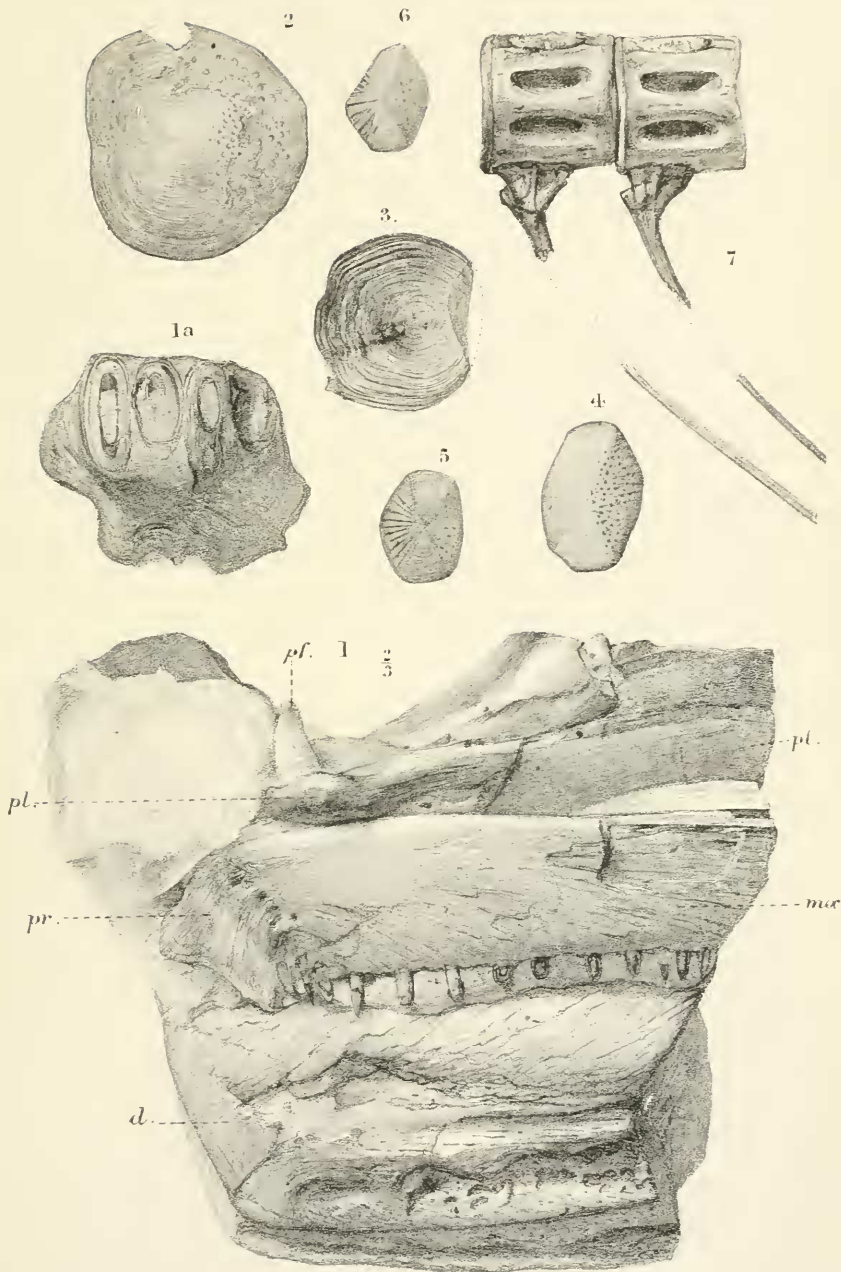
Type.—Anterior two thirds of the jaws with part of the base of the cranium exposed on both sides, but more or less abraded and fractured; Museum of Queensland Geological Survey.

Sp. Chars.—A species of medium size, about two thirds as large as the type species. Premaxilla with four relatively large closely arranged teeth. Maxilla not much deepened in front, the dentigerous border nearly straight, the teeth well spaced and those anteriorly not much enlarged.

Description.—The left side of the type and only known specimen is shown of two thirds the natural size in Pl. X. fig. 1, and an abraded horizontal section of the right premaxilla, with the four teeth, is given in fig. 1 a. There is nothing worthy of remark in the fragmentary cranium, and the comparatively delicate, toothless, pterygoid arcade (*pt.*) is only imperfectly shown. The robuster portion of the palatine (*pl.*), however, interposed between the maxilla

* *Lamna appendiculata* and *L. Daviesi*, R. Etheridge, Jun., Proc. Linn. Soc. N. S. Wales, [2] vol. iii. (1888) p. 156, pl. iv.

† *Belonostomus Sweeti*, R. Etheridge, Jun., and A. S. Woodward, Trans. Roy. Soc. Victoria, 1891, p. 1, pl. i.



and prefrontal (*pf.*), and articulating with each of these bones, is conspicuous on both sides of the fossil. The maxilla (*mx.*) exhibits the usual broad laminar process (*pr.*) extending inwards at its anterior extremity, to be covered by the premaxilla; and the bone is not much less deep behind than in front. The hinder portion of the upper margin of this element exhibits the slight longitudinal groove noted in other species, and the inferior or dentigerous margin is nearly straight. The maxillary teeth are much broken even on the left side, but all are shown to be stout and hollow, separated by irregular intervals wider than the teeth themselves, while those in the anterior third of the bone are not much longer than those behind. Both premaxillæ are displaced and much abraded, but they appear to have been comparatively robust, and the bases of four teeth are indicated in the bone of the right side, these teeth being much larger than any of those of the maxilla. An imperfect section of the premaxilla is given in fig. 1 *a*, and it will be observed that the teeth are closely pressed together, their extero-internal diameter being the greatest. Of the cheek-plates there are no satisfactory remains, and of the ossified sclerotics only part of that on the right side is preserved.

Comparison.—The fossil thus described is readily distinguished from all the known species of *Portheus* by the characters noted*. To mention only a few points: the Australian species differs from *P. molossus* and *P. thaumas* in the greater development of its premaxillary dentition; from *P. lestrio*, *arcuatus*, *Mantelli*, and *Daviesi* in the straightness of the dentigerous border of the maxilla; from *P. Mudgei* and *P. gaultinus* both in the form of the maxilla and the regularity of its dentition. The new fossil may therefore be regarded as representing a hitherto unknown species, appropriately named *P. australis*, in allusion to its being the first evidence of the fish from the Southern Hemisphere.

Formation and Locality.—Rolling Downs Formation (Lower Cretaceous); Clutha Station, near Hughenden, Gidgery Creek, Queensland.

Cladocyclus Sweeti, sp. n. (Pl. X. figs. 2-6.)

Type.—Detached scale; collection of George Sweet, Esq., F.G.S., The Close, Brunswick, Melbourne.

* Descriptions of the known species of *Portheus* are given by E. D. Cope, "Vertebrata of the Cretaceous Formations of the West" (Rep. U.S. Geol. Surv. Territ. vol. ii. 1875), and by E. T. Newton, "On the Remains of *Hypsodon*, *Portheus*, and *Ichthyodectes* from British Cretaceous Strata," Quart. Journ. Geol. Soc. vol. xxxiii. (1877) pp. 509-520.